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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------------|------------------|
| 10/588,622 | 08/04/2006 | Mark F. Sonnenschein | 63344A | 8246 |
| 109 | 7590 | 10/09/2009 | | |
| The Dow Chemical Company Intellectual Property Section P.O. Box 1967 Midland, MI 48641-1967 | | | EXAMINER ZHAO, XIAO SI | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1792 | |
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| | | | 10/09/2009 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/588,622 | SONNENSCHN ET AL. | |
| | Examiner | Art Unit | |
| | XIAO ZHAO | 1792 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Sonnenschein et al. (US 2002/0033227).

Per independent claims 1, 7, and 9:

Sonnenschein et al. teach a polymerizable adhesive composition ([0013]) that is a 2-part formulation ([0055]). The first part contains the complexes of the composition, and the other part contains the initiator ([0055]). The complex of the composition contains a trialkylborane-organonitrogen complex ([0011]), water carrier ([0068]), and polyethylene glycol diacrylate surfactant ([0062]). The second part contains an initiator of methylmethacrylate, poly(methylmethacrylate), and acrylic acid ([0085]).

Per claim 2, the composition contains trialkylborane-organonitrogen complex ([0011]) and poly(methylmethacrylate) ([0085]).

Per claim 3, see claim 2.

Per claim 4, the composition contains polyethylene glycol diacrylate (see claim 1).

Per claim 5, the second part of the formulation contains methylmethacrylate and acrylic acid (see claim 1).

Per claim 6, see claim 5.

Per claim 8, pigments can be added to the composition ([0068]).

Per claims 10-11, see claim 9.

Per claim 12, the composition is a cured adhesive ([0013]).

Per independent claim 13:

Claim 13 contains all the limitations of claim 1 and further includes contacting the formulation and applying the curing adhesive to a low surface energy substrate.

Sonnenschein et al. teach contacting the components of the adhesive composition and applying the adhesive to substrates ([0013]). The substrate is low surface energy substrate ([0014]).

Per claim 14, the curing and contacting are done concurrently ([0013]).

Per claim 15, the substrate is polypropylene ([0067]).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sonnenschein et al. (US 2002/0033227) as evidenced by Sonnenschein et al. (US 2004/0259990).

Sonnenschein et al. ('227) teach all the limitations of claim 13 and that a low surface energy polypropylene substrate is used. Sonnenschein et al. ('227) does not specify the tacticity of the polypropylene substrate.

Isotactic polypropylene is a low surface energy substrate. This is evidenced by Sonnenschein et al. ('990) wherein the reference teach that isotactic polypropylene is a low surface energy substrate (see abstract).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use an isotactic polypropylene as the low surface energy substrate taught by Sonnenschein et al. ('227). One would have been motivated to choose isotactic as the tacticity of polypropylene because the reference disclose that a low surface energy substrate needs to be used.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to XIAO ZHAO whose telephone number is (571)270-5343. The examiner can normally be reached on Monday to Friday 8:30 am EST to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Kornakov can be reached on (571)272-1303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Xiao S Zhao/
Examiner, Art Unit 1792
/Michael Kornakov/
Supervisory Patent Examiner, Art Unit 1792